THE AGRICULTURAL · SITUATION ·

MARCH 1941

A Brief Summary of Economic Conditions

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IN THIS ISSUE

ANOTHER CROP PLANTING SEASON has begun. Plowing and planting of new crops are under way in the South, and moving progressively North as the earth is made ready to take the new seed. Total acreages planted do not change much one year with another, but there may be some changes as between crops this season in view of the large supplies of export commodities, the loss of export markets, and the more favorable position of products used in domestic consumption. Early prospects are for a good growing season. * * * Economists predict a better domestic demand for farm products this year than last, a higher average of prices, and larger total farm income. Prices average higher than at this time last year—both prices received by farmers and the prices farmers pay for commodities used in production. Farmers are paying higher wages this season than last and employing more help. * * * The problem now is how the producers of export products—cotton, tobacco, wheat, and fruits—may share in the general improvement in farm prices and income. A supplemental adjustment program has been announced for cotton, and tentative plans for a marketing quota referendum on wheat. Tobacco acreage may be about the same this year as last. No indications were available in early March as to acreages of feed grains.

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Commodity Reviews

DEMAND: Improved

THE sharp rise of industrial activity and consumer purchasing power in the last half of 1940 has resulted in a definite, but less marked, improvement in the domestic demand for farm products. Signs of improvement are found in connection with most commodities which are not adversely affected by the unfavorable export situation. Prices of apples have been somewhat higher than last year, and orange prices are up despite larger supplies. Livestock prices are distinctly higher than a year earlier, influenced recently by reduced hog supplies as well as by the improvement in consumer demand.

Changes in industrial activity and consumer income during the next few months are expected to be relatively small, but indications point to a further pickup after new defense plants come into operation next summer and fall. Of course, sudden and drastic changes in the international situation could materially alter the outlook.

The immediate export demand situation continues unfavorable, with large competitive supplies in other surplus-producing nations, many markets entirely cut off, and British purchases restricted to necessities. Easing of dollar exchange difficulties for Great Britain might be accompanied by increased exports of farm products, but these possibilities are still very uncertain.

F. L. THOMSEN.

INCOME: Up

Government estimates of farmers' cash income from marketings, commodities placed under loan, and Government payments in 1940 have been raised to 9,120 million dollars, compared with 8,668 million in 1939, with 8,134 million in 1938, and 9,155 million in 1937. Figures for 1940 include 8,354 million dollars from marketings and loans on crops, livestock, and livestock products, and 766 million from Government payments. Approximately two-thirds of the increase in 1940 over 1939 was from livestock and livestock products. Government payments were smaller by 41 million dollars than in 1939.

Income from livestock and livestock products totaled 4,818 million dollars in 1940, compared with 4,490 million in 1939; income from marketings and loans on crops totaled 3,536 million, compared with 3,372 million in 1939. The largest percentage gain in the livestock and livestock products group was from dairy products, which yielded farmers 1,501 million dollars cash as compared with 1,355 million in 1939.

Most of the principal crops except tobacco, fruits, and sugarcane yielded more cash income in 1940 than in 1939. Income from grains was the largest since 1929, cotton yielded slightly more cash than in 1939, income from vegetables was larger than in 1939. Income from sugarcane for sugar and sugarcane sirup was sharply lower, but sugarbeets returned the largest income for recent years.

Cash income, including Government payments, was higher than in 1939 in 39 States. The 9 States showing smaller income included Louisiana, Mississippi, Florida, North Carolina, South Carolina, New Hampshire, Massachusetts, Alabama, and Washington. Largest gains were in Minnesota, Iowa, North Dakota, South Dakota, and Montana.

PRICES: Down

Products which are important sources of farm income in late winter—dairy products and eggs—declined during the past month, but the average of all products combined is higher than at this time last year. Prices of

Index Numbers of Prices Received and Paid by Farmers

[1910–14=100]

Year and month	Prices received	Prices paid	Buying power of farm products [1]
1940			
January	99	122	81
February	101	122	83
March	97	123	79
April	98	123	80
May	98	123	80
June	95	123	77
July	95	122	78
August	96	122	79
September	97	122	80
October	99	122	81
November	99	122	81
December	101	123	82
1941			
January	104	123	85
February	103	123	84

[1] Ratio of prices received to prices paid.
[2] Revised.

bread grains declined, but farm marketings of such grains are not large at this time of year. Principal commodities selling higher during the month included fruits and vegetables.

The general level of prices received by farmers is not expected to change much during the next few months; but the general tendency for the year as a whole will probably be toward a higher level. This applies especially to products dependent almost entirely upon domestic markets. Prices paid by farmers for commodities used in agricultural production also are likely to advance.

The ratio of prices received to prices paid is 16 percent below the pre-World War base of 100. The only major groups of commodities showing a higher-than-pre-war ratio of prices received to prices paid are truck crops and meat animals. Lowest ratios are shown for grains, cotton and cottonseed, and fruits.

EMPLOYMENT: Increase

Farm employment is increasing as a new planting season gets under way, increasing South to North progressively up through the country. Farmers have been employing more hired help this winter than last, and paying higher wages.

Estimate is that 1,793,000 hired workers were employed on farms

Prices of Farm Products

Estimates of average prices received by producers at local farm markets based on reports to the Agricultural Marketing Service. Average of reports covering the United States weighted according to relative importance of districts and States.

Product	5-year average, August 1909–July 1914	February average, 1910–14	February 1940	January 1941	February 1941	Parity price, February 1941
Cotton, lb.—cents	12.4	12.3	9.97	9.45	9.44	15.87
Corn, bu.—do	64.2	60.1	54.7	56.0	56.0	82.2
Wheat, bu.—do	88.4	89.2	84.1	73.0	67.8	113.2
Hay, ton.—dollars	11.87	12.02	8.10	7.78	7.88	15.19
Potatoes, bu.—cents	69.7	66.3	75.2	54.6	54.6	[2] 87.6
Oats, bu.—do	39.9	39.8	37.7	33.3	32.9	51.1
Rice, bu.—do	81.3	[1]	68.7	87.9	96.3	104.1
Tobacco:						
Flue cured, Types 11–14, lb.—do	22.9	[1]	9.5	11.7		
Burley, Type 31, lb.—do	22.2	[1]	17.0	15.5	11.8	[2] 21.8
Apples, bu.—dollars	.96	1.06	.81	.90	.93	1.23
Beef cattle, cwt.—do	5.21	5.11	6.84	8.09	8.34	6.67
Hogs, cwt.—do	7.22	7.12	4.97	7.26	7.19	9.24
Chickens, lb.—cents	11.4	11.1	12.2	13.7	14.0	14.6
Eggs, doz.—do	21.5	23.7	20.2	19.7	16.8	[2] 24.8
Butterfat, lb.—do	26.3	27.4	29.7	31.1	30.5	[3] 34.4
Wool, lb.—do	18.3	18.5	27.8	31.3	32.1	23.4
Veal calves, cwt.—dollars	6.75	6.77	8.80	9.70	10.11	8.64
Lambs, cwt.—do	5.87	5.95	7.61	8.34	8.60	7.51
Horses, each.—do	136.60	137.00	78.20	70.20	70.40	174.80

[1] Prices not available. [2] Adjusted for seasonality. [3] Post-war base.

February 1—principally in the South—as compared with 1,693,000 on that date last year. There was a corresponding decline in numbers of family workers. The number of family workers was 6,989,000 as compared with 7,088,000 on February 1 last year.

A trend toward a larger proportion of hired men in the total number of persons working on farms has been in evidence this winter. This may reflect some displacement of tenants and sharecroppers by hired workers.

WHEAT: Referendum

Important wheat news of the month was that tentative plans for holding a national marketing quota referendum among growers on May 31 had been approved by the Secretary of Agriculture. Indications were that the 1941–42 supply of wheat would be in excess of the probable marketing quota level.

Marketing quota provisions of the Agricultural Adjustment Act are that a marketing quota proclamation is mandatory whenever it appears, by May 15, that the total supply of wheat for the next marketing year will exceed a normal year's domestic consumption and exports by more than 35 percent. The 1941 winter wheat crop has been estimated at 633 million bushels. The current estimate for the July 1 carryover is 385 million bushels. If these estimates materialize and if the spring wheat crop is of average size, the 1941–42 supply of wheat would total 1,200 million bushels. The 1940 marketing quota level was 1,023 million bushels.

The quota will become effective when announced and will continue during the 1941–42 marketing year unless opposed by more than one-third of the farmers voting in the referendum. Under the quota, a cooperating wheat farmer, one who plants within his wheat acreage allotment, is free to market all he produces plus his carryover wheat. Wheat in excess of the quota on an overplanted farm is subject to a penalty unless it is stored under seal. If a quota is proclaimed and disapproved, the law specifies that no government loans can be made on the crop.

COTTON: Record

New high records of consumption are being established by the cotton mills. The output of mills has been sold well in advance, so that production will continue at high levels the remainder of this year. Each month the estimated total of domestic consumption is raised, and the total now is placed at approximately 9 million bales for the year ending July 31 next. This compares with 7.8 million bales in 1939–40.

Export demand continues small. United States exports totaled only 660 thousand bales during the first half of the 1940–41 season, compared with 4.2 million bales in the like period a year earlier. The United Kingdom is the largest customer for American cotton, but total shipments have been small during the past year. Reports have indicated recently that a more widespread system of control of the cotton industry in the United Kingdom is being contemplated, to reduce production for civilian use so that shipping space may be conserved and labor released for work in munitions plants.

The price of raw cotton in the United States—slightly more than 10 cents a pound in spot markets—is being supported by Government loans. Many foreign growths sell in world markets for less money.

TOBACCO: Big Supply

The supply of flue-cured tobacco is the largest on Government record. Total for 1940–41 was estimated at 2,144 million pounds, compared with 2,106 million for 1939–40, and 1,740 million for 1938–39. The current supply of flue-cured is more than 3 times the disappearance of 696 million pounds in 1939–40. Stocks on July 1 next will be the largest on record, unless the export situation should im-

prove. Flue-cured exports totaled 55 million pounds during the last 6 months of 1940, compared with 140 million in the like period of 1939, and with 257 million during the last half of 1938.

The flue-cured marketing quota for 1941 has been set at 618 million pounds, not including adjustment allowances for small farms. After adjustment, the conversion of this marketing quota to an acreage basis will result in a total of about 770,000 acres. The tobacco grown on the allotted acreage will become the marketing quota for each farm. This acreage is slightly higher than that harvested in 1940 but is only 60 percent of the area planted to flue-cured in 1939. At average yields for the last 5 years this acreage would produce 678 million pounds of tobacco.

FEED: Plentiful

The supply of feed grains and by-product feeds is more than enough for the number of animals on farms, and prices are being supported by Government loans. The hog-corn price ratio has become favorable to hog producers, the relation of beef cattle prices to corn prices and of butterfat to feed prices is about average, but the feed-egg price ratio has been unfavorable to poultry producers this winter.

Disappearance of corn is expected to be somewhat smaller during the remainder of this marketing year than in the like period of 1940. The quantity of corn carried over on October 1 next may be 75 million to 100 million bushels larger than the quantity carried over on that date last year.

CATTLE: Increase

Cattle slaughter will probably be larger this year than last, coincident with an increase in number of cattle on farms. Cattle and dairy men have been rebuilding herds the last 3 years, a tendency that is likely to continue for at least another 2 or 3 years. Cattle numbers are likely to reach and perhaps exceed the all-time high record of cattle numbers in 1934. This would mean large marketings within the next 5 years. Unusually heavy supplies of beef and veal might come at a time when consumer demand may be less favorable to producers than it is now.

Cattle slaughter increased slightly in 1940, but most of the increase was in steers. Inspected steer slaughter totaling 4.9 million head was 6 percent larger than in 1939, and the largest in 22 years of record. Inspected cow and heifer slaughter totaled 4,481,000 head, compared with 4,446,000 in 1939. This was the first increase in slaughter of cows and heifers since 1936; it may mark the beginning of an upward trend in cow and heifer slaughter which will continue for several years.

The extent to which marketings of cattle and calves for slaughter will increase in 1941 over 1940 will depend chiefly upon how large a number of breeding stock producers hold back for herd-building. Barring unfavorable weather, the increase in breeding stock in 1940 will be reflected in a substantial increase in the 1941 calf crop over that of 1940. Even though producers hold back breeding stock in about the same number this year as last, total slaughter of cattle and calves in 1941 could exceed that of a year earlier by as much as 4 to 5 percent.

Marketings of grain-fed cattle will be larger this year than last as a result of an 11-percent increase in number of cattle being fed this season. Most of the increase in marketings of these cattle will be during the last half of the year.

HOGS: Higher

Supply and demand conditions continue to point to higher prices of hogs and larger income to hog producers this year than last. The seasonal reduction in hog marketings in late December and early January was more pronounced than a year earlier, and hog supplies are smaller than at this time last year. The total number marketed during the remainder of the

year—through next September—will be about 15 percent smaller than in the corresponding period of 1940. It is expected that hogs slaughtered under Federal inspection this marketing year (October 1940–September 1941) will total about 45 million head, compared with 50.4 million during the preceding year.

Reports from farmers in December indicated that 14 percent fewer sows would be farrowed this spring than last. But since the hog-corn price ratio has become favorable for hog production, the decrease in number of pigs raised this spring may be smaller than this figure indicates. However, it seems certain that fewer hogs will be marketed in the first quarter (October–December) of the 1941 marketing year as compared with the like period in 1940. Higher prices of hogs this year than last suggest an increase in the 1941 fall pig crop over that of 1940.

LAMBS: Increase

The fed-lamb marketing season ends about May 1. Marketings are declining seasonally. but the total supply of sheep and lambs for slaughter is expected to be a little larger this spring than last, chiefly because of the 6 percent more sheep and lambs on feed this January 1 than last. A fairly large market movement of fed lambs was reported from Corn Belt feed lots during January, but a considerable proportion of the January supply was from wheat pastures, particularly in Kansas where feeding conditions were much more favorable this season than last.

It was reported late last month that early lamb conditions were favorable in California and Arizona, that lambing had started in the early lambing areas of Idaho, Oregon, and Washington, and that the condition of sheep and the feed supply were favorable for the early lamb crop. Weather conditions in the Western Sheep States were better than average this winter. The condition of western sheep and lambs on February 1 was above average for that date.

WOOL: Good Prospects

A new wool marketing season is about to open with favorable prospects indicated by domestic supply and demand conditions. The carry-over of domestic wool into the new season which begins about April 1 will probably be the smallest in recent years. Mill consumption of wool is expected to be larger in the first half of this year than last.

Imports of wool were large during the first quarter of 1941, but mill consumption also was large, and stocks of domestic and imported wool are relatively small. The small carry-over and the prospects for large mill consumption will be strong supporting factors to domestic wool prices.

Prices of wool are expected to average higher this spring and summer than last. Since last spring, however, prices have advanced materially and any advance from recent levels is likely to be moderate. Relatively large supplies of wool are available for shipment from foreign countries to the United States.

POTATOES: Surplus

Potato supplies have been so large and prices so low this winter the Surplus Marketing Administration inaugurated a program providing for diversion of about 12.5 million bushels of western late crop potatoes to livestock feed. Growers eligible to participate were those who cooperated in the 1940 AAA potato acreage allotment program in designated commercial producing districts of 8 western States. The program provided for diversion payments of 25 cents per 100 pounds to eligible growers. A similar program in Maine provided for the diversion of 6.5 million bushels to the manufacture of starch.

Meanwhile, a new southern crop has been coming along on an acreage somewhat larger than in 1940. Market supplies of all potatoes will be larger during the next few months than in the like period last year. Little im-

provement in prices is expected notwithstanding better consumer demand for foods this year than last.

RICE: Higher

Growers are getting higher prices for rice this season than last. Demand has been active for both rough and milled rice, and exports have been larger than during corresponding months a year earlier. Exports have been principally to Cuba, where American rice has been favored by reduced competition from the Orient.

Available statistics indicate a somewhat smaller world crop of rice this year than last. Smaller crops have been reported for Northern Hemisphere countries including Japan, China, Thailand (Siam), the Philippine Islands, and the United States. The crop in French Indo-China is reported about the same as the good harvest of a year ago, but no information has been received as to the size of the Indian crop.

Rice is harvested in the Southern Hemisphere from March to May. Available information is that the crop will be no larger this year than last.

TRUCK CROPS: Increase

Harvesting of winter vegetables was held back by heavy rains, and market prices advanced sharply in February. Even so, prices were slightly lower this February than last. Plantings of winter truck crops were larger this year than last, but the storms came again in late February, and frost nipped tender vegetables all the way south to the Florida Everglades. As of March 5 it was indicated that supplies of many green vegetables would be short for another month or six weeks.

Supply and demand conditions indicate larger plantings of truck crops for processing this year than last; that prices to growers will be slightly higher, and income larger. It was estimated in February that total planted acreage of all important truck crops for processing would be increased about 20 percent this season. Planted area of 11 crops for processing in 1940 totaled 1.4 million acres.

FRUITS: Increase

Government purchases of citrus fruits and apples for relief distribution will probably be continued during the next few months in view of the large available supplies of these fruits. Increased consumer buying power also is expected to help offset the effect of the large supplies on prices to growers. February estimates put the production of oranges and grapefruit at 4.8 million tons in 1940–41 compared with 4.3 million tons the preceding year. Cold storage holdings of apples were 2.6 million bushels larger this February than last.

January 1 stocks of important canned fruits in California were 10 percent smaller than on that date last year, and the smallest since 1937. Stocks of fruit cocktail and pears were larger this January 1 than a year earlier; stocks of apricots, cherries, fruit salad, and peaches were smaller.

DAIRY: Expansion

The dairy industry continues to expand. The number of cows on farms is the largest since 1935; the number of young stock to be added to milking herds is the largest on Government record. Dairy production will continue to increase so long as feed supplies are ample and consumer buying power rises.

Seasonal trend of dairy prices is downward at this time of year. Prices will likely continue downward until June, when the annual production peak is reached. Probability is that production will set a new high record this year, but the effect of this on prices will likely be offset by improved consumer demand for milk and manufactured products.

Farm production of 111.1 billion pounds of milk in 1940 was the largest on Government record. The average number of milk cows on farms during the year was 24.3 million—the largest number since 1935, but 4 percent

smaller than the high record number in 1934. Total consumption of dairy products in 1940 also set a new high record.

FATS, OILS: Up

Domestic fats and oils have been selling higher in recent months, are expected to improve more in response to improved consumer buying power the remainder of this year. The price movement was downward during the first 8 months of last year; now it is upward. Average for the full year 1941 is likely to be higher than in 1940.

Production of fats and oils from domestic materials set a new high record in 1940. Total was nearly 9 billion pounds. Lard, greases, tallow, and linseed and soybean oils accounted for most of the increase over production in 1939. It is expected that production total will be about the same this year as last. Lard and grease production will be substantially smaller, but this reduction may be offset by larger output of vegetable and marine oils.

Both imports and exports of fats and oils were reduced in 1940, stocks were increased to a new high record, domestic consumption was expanded moderately to reach 9.8 billion pounds—another high record. A marked increase in consumption of domestic fats in 1940 was mainly at the expense of imported items.

POULTRY: Prospects

Improved consumer demand is the big factor pointing to higher poultry prices this year than last. Receipts of live poultry at primary markets in the Middle West, and of dressed poultry at principal markets have averaged smaller since the first of this year than in the like period in 1940. Larger out-of-storage movement of frozen poultry during this period also has reflected the smaller farm marketings of live poultry and the continued heavy consumption of poultry meat. Nevertheless, storage stocks of poultry on February 1 were the largest on record for that date.

Production of winter broilers was at a near-record level in January. The number of chicks produced by commercial hatcheries was 42 percent larger than the reduced output in January 1940. The number of eggs set during the month and the number of chicks on order at the end of the month also were much larger than a year earlier. The hatchery output of baby chicks is being used mostly for flock replacement rather than for commercial broilers. Farmers reported as of February 1 intentions to buy 9 percent more baby chicks in 1941 than in 1940.

Turkey producers reported last month they intend to hatch the same number of poults this year as last, but to buy 5 percent fewer poults from commercial hatcheries. This indicates continuation of the tendency shown last year toward an increased proportion of home-hatched poults.

EGGS: Higher

Production of eggs is close to peak figures for the year, but the total may be slightly smaller this spring and summer than last, since there are fewer layers on farms. Numbers of layers totaled 324 million in January, compared with 332 million in the same month last year. Numbers usually decrease through midsummer, then increase. Peak of egg production is in April, there is a small decrease in May, and then a steady decrease through November.

Mid-winter egg markets were heavily supplied, prices declined, and the Government bought eggs for relief distribution. The outlook is for smaller production of eggs in coming months as contrasted with a year earlier, combined with improving consumer demand as incomes of non-agricultural workers increase. It is expected that the feed-egg price ratio will be more favorable to producers during the important egg-producing months this spring compared with last. Prospects also are for a better storage demand this season.

FRANK GEORGE.

Our Reduced Farm Exports

FARM exports from the United States seem to have reached rock bottom in the past few months. Since the European War entered its second year (in September 1940), exports have been moving out at only about one-third the rate maintained in the first year. To find a comparably low autumn movement, one would have to look back more than fifty years. Moreover, the prospect for improvement is as uncertain as ever, although a new development is the distinct possibility that the United Kingdom would buy our farm products in considerable quantities should her concern over war time credit and foreign exchange problems be solved.

The much-discussed quirks of the cotton-export situation are, of course, the main reason why the general export picture is so much blacker than it was a year ago. At that time, while foreign takings of other farm exports were shrinking, foreign cotton buyers were racing to fill depleted warehouses before the United States export program might be terminated or ocean shipping rendered precarious. Hence, the level of cotton exports was fairly good for most of the season. For 2 months it rose even above average pre-depression levels. In the current season every important factor is working the other way. Cotton exports are running at the lowest levels in 75 years.

But even without cotton, farm exports in the second year of the war are running at only a little more than half the level in the first year, in spite of the fact that the latter represented a fall of about 25 percent from the preceding 12 months. The level reached in the first 4 months of the second year of the war is a record low for this index as well as for that of cotton exports.

EVERY farm product important in our export trade—practically every product (whether or not important in the total) that ordinarily depends on exports for any significant part of its market—has suffered seriously. Tobacco, fruits, and cured pork have fallen farthest. These products have been moving at less than one-fourth of their pre-war rate. Cotton and wheat (including flour) are next, shipments having been reported at between a fourth and a third of the rate in the pre-war 12 months. These five groups ordinarily make up more than three-fourths of our total farm exports. Including lard they make up about 85 percent of the total. Lard has been moving at about one-half of its immediate pre-war rate; but this is worse than it seems since the pre-war rate was low, lard supplies available for export not having completely recovered from drought-period shortages. By comparison with the pre-drought, pre-war, and pre-depression period, 1924–29, on which the new export quantity indexes of the Office of Foreign Agricultural Relations are based, lard is second only to cured pork and cotton in the degree of decline among the major farm export groups.

Some farm products have been moving out in relatively good volume. These include dairy products, especially evaporated milk which has been purchased in unusually large quantities by the United Kingdom. Evaporated milk is a practically necessary food element, it is not perishable, it requires relatively little shipping space, and is comparatively inexpensive—it exactly meets the needs of the British emergency. Other export products going out in relatively good quantity include rice (to Cuba), stearin and fatty acids, tallow, grapes, oranges, malt, green beans, fresh tomatoes, potatoes, hops, and cornstarch and corn flour. Increased quantities of more than half of these products have been exported to Canada. But all of these products together have not been sufficient to affect noticeably the declining total of all farm exports.

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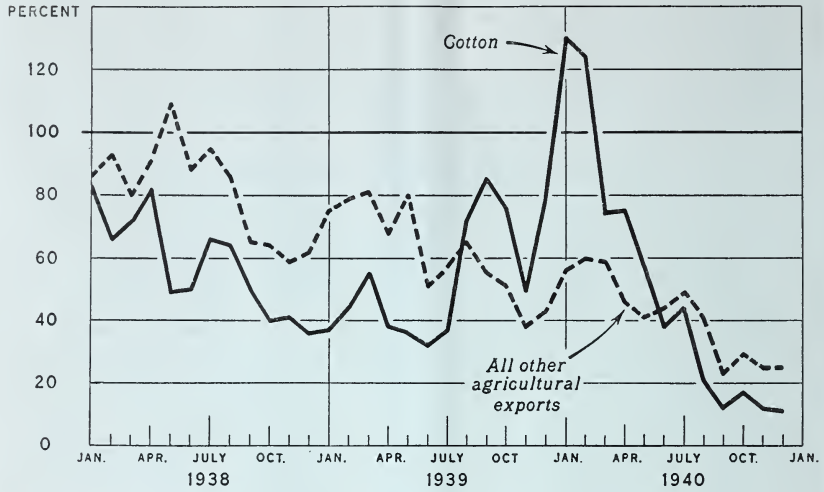
UNITED STATES AGRICULTURAL EXPORTS: COTTON AND ALL OTHER, 1938, 1939, AND 1940

QUANTITY INDEX NUMBERS (1924-29=100) ADJUSTED FOR SEASONAL VARIATION



AT the outbreak of war, it was expected that lard, pork, and certain canned and dried fruits would move in increased quantities, although it was foreseen that tobacco, fresh fruit, feeds, and perhaps wheat would suffer considerable declines. It was generally anticipated that food consumption by the then allied powers would continue at at least peace-time levels; for, in spite of the example given by Germany throughout 6 years of preparation for war, it was not realized how far the demands of total war could lead a country to voluntarily restrict consumption. It was not anticipated, moreover, that the fear of a dollar-exchange shortage would be of basic importance in determining British purchasing policies, and there was a tendency to underestimate Britain's ability to maintain her ocean supply lines from the Southern Hemisphere. Finally, the military situation developed in a wholly unexpected way, cutting off continental markets, particularly France. These developments lie behind much of the great export decline.

There are evidences, however, that the picture may be changing to some extent. Probably because of reduced stocks or a desire not to decrease consumption further, it appears that the British need for food imports is now greater than during earlier months. Moreover, the tightening of the shipping situation, not only by losses of tonnage but also by damage to port facilities and other war disturbances, may be threatening to force partial abandonment of the longer ocean routes.

EVEN more important than these foreign developments, however, would be a change in the British attitude toward the credit situation. As has been pointed out, a big factor in curtailed United Kingdom purchases of our farm products has been the fear of a future shortage of dollar exchange that would cut off the supply of airplanes and munitions.

The farm products in greatest demand by the United Kingdom, however, will probably be quite different from the products we are most anxious to sell. Our surpluses include tobacco, corn, cotton, wheat, fruits, and lard. The British would probably ask for pork and dairy products. While we could supply some of their needs without curtailing our own consumption, the British would have little present

interest in the items we have in greatest surplus. Hence, the present outlook does not appear very bright from the point of view of the former great export crops which have been accumulated in the United States. The producers of these crops will continue to face a restricted world market.

R. B. Schwenger,
Office of Foreign Agricultural Relations.

Opening New Areas to REA Power

RURAL electrification in the United States has spread rapidly during the last 5½ years. On January 1, 1935, a few months before establishment of the Rural Electrification Administration, only 744,000 American farms [1] had central station electric service. By June 30, 1940, the number had increased to 1,872,000.[2] About half of the 1,128,000 farms connected during the 5½ years are served by lines financed by REA. The remainder are served by lines built by private utilities, and by various municipalities and other public bodies, without resort to REA financing.

The increase in the number of farms served has been accompanied by a sharp change in the type of rural areas traversed by power lines. Before 1935, most of the American farms served were located close to urban centers or in compact communities along main highways, and had received electricity incidentally to urban or suburban development. Today, a growing proportion of the new rural power lines are in open country. This is especially true of lines financed by REA, most of whose 747 borrowers[3] are farmer cooperatives operating strictly rural electric power systems, planned in accordance with the principle of area coverage to serve whole areas.

THE original REA was established by Executive Order of the President on May 11, 1935. Subsequently, the Congress passed legislation to give the program greater permanency. The Rural Electrification Act of 1936, under which REA now operates, provides for a 10-year program of rural electrification through self-liquidating loans, continuing until 1946. It authorizes an annual loan fund of $40,000,000. Twice the Congress has increased the loan fund—to $140,000,000 during fiscal 1939, and to $100,000,000 during fiscal 1941. The law restricts service extended under its provisions to unserved persons in rural areas, including incorporated villages and boroughs of less than 1,500 population.

Owing partly to the practice of area coverage first widely inaugurated by REA, and partly to cream-skimming practices of power companies which had already taken service to many of the more prosperous areas before REA was set up, rural areas served by the cooperatives that form the bulk of REA borrowers have from the start been thinner than those served by private utilities. As the program advances, unserved areas become progressively thinner. Hence REA continually faces new problems of reducing construction and operating costs and of enabling farmers and other rural users to obtain electrical equipment at minimum cost and teaching them to utilize electricity liberally and productively. (REA has been able to reduce the over-all cost of building rural electric power lines to an average of less than $800 a mile. Prior to REA, rural lines cost from $1,200 to $2,000 a mile.)

[1] Estimated by Edison Electric Institute.

[2] Estimated by Rural Electrification Administration.

[3] As of August 31, 1940. Of these 670 are cooperatives, 53 public bodies, and 24 private utilities.

RECENTLY REA has taken three important steps designed to increase the number of American farm families it is feasible to serve. Two of these broaden the areas that can be served on a self-liquidating basis. The third, while it does not broaden service areas, enables many sharecroppers and other extremely low-income families living along existing REA lines to enjoy the simplest benefits of electricity.

One step is the adoption of the "self-help" plan for system construction. Under it, the contractor building a cooperative's system agrees to hire members to do the nontechnical work. They assign their wages to pay for wiring their premises and, if they wish, for a few appliances as well. First introduced in Indiana, this plan has been used widely in Arkansas and increasingly in other States. Since members are paid the prevailing wages for the type of work they do, the self-help plan does not reduce the cost of the cooperative's system; it does, however, make possible the building of self-sufficient systems in areas where many farmers, while able to pay for electricity as they use it, are unable, without hardship, to make the necessary initial investment for wiring and appliances. In effect, the self-help plan applies to construction of an electric power system the traditional methods of the "barn-raising" and the "husking bee."

THE other two steps recently taken to increase the number of farms it is feasible to serve on a self-liquidating basis have been made possible by the development of new equipment. The first of these was the introduction of limited service, and the second (just going into effect) the adoption of a new policy whereby the REA system furnishes the main service entrance or all members. The main service entrance includes not only the meter receptacle, but also overload protection for circuits within the house, though not for circuits in barns and other nonresidential farm buildings.

The Limited Service Plan is optional with the individual system. It is the answer of REA to the challenge presented by location along REA system lines of large numbers of sharecroppers and other low-income families. These families cannot afford complete wiring installations, nor can they afford to pay even the low minimum bills that REA systems charge for standard service. The limited service plan enables a cooperative otherwise self-sufficient to serve a considerable number of such families for a minimum bill of around a dollar a month.

The heart of limited service is a special service entrance assembly of low cost and small capacity. This consists of a 600-volt-ampere transformer, an inexpensive entrance cable, and a special meter and overload protection assembly. It was designed by REA engineers cooperating with the staff of an interested manufacturer, and is available to systems through a group purchase arrangement which keeps the price to a minimum. This equipment will supply enough electricity so that the low-income consumer can operate a few lights and small appliances such as a radio or a low-wattage hand iron. It will not deliver sufficient energy to operate such major appliances as a refrigerator or a washing machine as the circuit-breakers trip instantaneously when the load reaches 700 watts.

Limited service does not count either way in determining the feasibility of a proposed system. Cooperatives who have adopted it offer it only to families clearly unable to pay for regular service. It does, however, enable a cooperative without loss to provide limited electric service to many people who otherwise could not expect to use electricity at all. The Limited Service Plan does not open up new rural areas for development. It does make service available to thousands of low-income homes in areas already served.

THE new service entrance policy widens feasible service areas by sharply cutting the cost of all members' wiring installations. It was made possible partly by the reduction in line construction costs by REA, and partly by the development of a single unit that combines the meter receptacle and overload protection devices for house circuits. The meter loop, meter receptacle, main disconnect switch and house circuit protection formerly cost the member $10 to $25 or more, depending on how many and how heavy the circuits he installed.

The reduction that REA has effected in line construction costs makes it feasible for the system to assume the service entrance cost and amortize it over a 20- to 25-year period. The new service entrance equipment is less expensive than the old. In addition, the cooperative buys it through a group purchase plan that reduces the cost still further. Also the cooperative contracts for installation of the service entrances of all signed members while the lines are being bulit. Hence it can install the equipment more economically than could the individual member.

Both the cooperative and the member benefit from the new policy. The cooperative starts operation with practically its entire signed membership ready to begin taking service, whereas in the past it was often the case that a sizeable number of the members were still unconnected at energization. Hence the building up of revenue is hastened. Owing to the reduced cost of wiring, the members are able to install more appliances at the start than under former procedures. Thus the cooperative builds load more rapidly than formerly, and at the same time the members are able to get more good out of their new service. Additions to a member's wiring system become less costly than in the past; especially is this true of the heavy-duty, three-wire circuits necessary for installation of a range or of a motor of more than 1 horsepower.

DURING the current fiscal year, REA expects to allot $100,000,000 and to complete construction of 70,000 miles of rural lines to serve 175,000 farm families and other rural users. Construction financed out of 1941 funds but extending into future fiscal years is expected to add another 42,000 miles to serve 105,000 members. The savings accruing to members as a result of the new service entrance policy will total roughly $4,200,000, much of which will flow into the electrical equipment industry, thus increasing the initial earning capacity of the new lines still more.

Meanwhile REA's construction and operations engineers continue their search for new ways of reducing construction and operating costs. At the same time REA's utilization specialists are striving to make electric service more useful to system members, partly by helping them to learn to use electricity productively on their farms and in their homes, partly by developing plans from which farmers themselves can make or assemble simple electrical equipment at small expense, and partly by stimulating development of new electrical equipment and adaptations of and price reductions in existing equipment.

HARRY SLATTERY,
Administrator, Rural Electrification Administration.

BUYERS

FARMERS bought 10,800 properties from the Federal land banks and Land Bank Commissioner in the first 9 months of 1940—more than one-fourth of the entire inventory. Total purchase price was more than $27,000,000.

Competition in Mortgage Lending

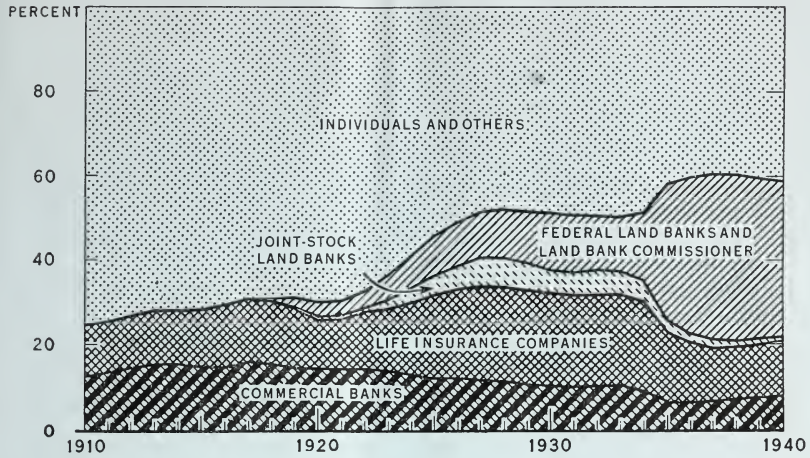
TO what extent does competition in farm-mortgage lending come to a focus in the interest rate charged? This is a question of more than academic interest. For example, to what extent is it reasonable to expect that the ability and willingness of federally sponsored lending institutions to offer farm-mortgage credit at reduced interest rates will induce private lenders to reduce their interest rates? Also to what extent is a reduced rate of interest alone a sufficient incentive for borrowers to shift their loans to the lower rate lenders? To answer such questions it is necessary to take account of the nature of competition in farm-mortgage lending, and particularly, to appraise the significance of interest-rate competition in this field. It is possible here to do little more than to indicate some of the factors to be considered in such an appraisal.

The accompanying charts suggest certain pertinent questions. If competition in farm-mortgage lending tends to come to a focus largely in interest rates, why has the spread between the rates charged by different lenders continued? In view of the wide difference during the 1920's between the rates charged by the Federal land banks, the joint stock land banks, and insurance companies on the one hand, and by commercial and savings banks, individuals, and other private lenders on the other, why did the first group of lenders hold only about 40 percent of the farm-mortgage debt at the beginning of 1933? Moreover, with current rates charged by these same lenders still much below those charged by local lenders, why do the Federal land banks, the Land Bank Commissioner, and life insurance companies even now hold only about one-half of the total?

THE answers appear to be found in part in the qualitative differences in the credit service furnished by different lenders. The Federal land banks and the joint stock land banks were restricted as regards the type of farm-mortgage credit service to be furnished. These restrictions were designed in part to provide a loan portfolio of sufficiently high quality, and sufficiently standardized, to serve as security for high-grade bonds. The extent to which these agencies, and later the Federal Farm Mortgage Corporation, have competed with local lenders has been determined in part by such restrictions. Life insurance companies have been most active in making relatively low-risk and low-cost loans in areas where a substantial volume of larger-than-average size loans was available. In part, therefore, self-imposed limitations have prevented these institutions from operating in full competition with local lenders. Local lenders have tended to make more of the small-size, short-term, high-risk, and otherwise high-cost loans, and their interest rates have reflected in part these qualitative differences in the credit service furnished.

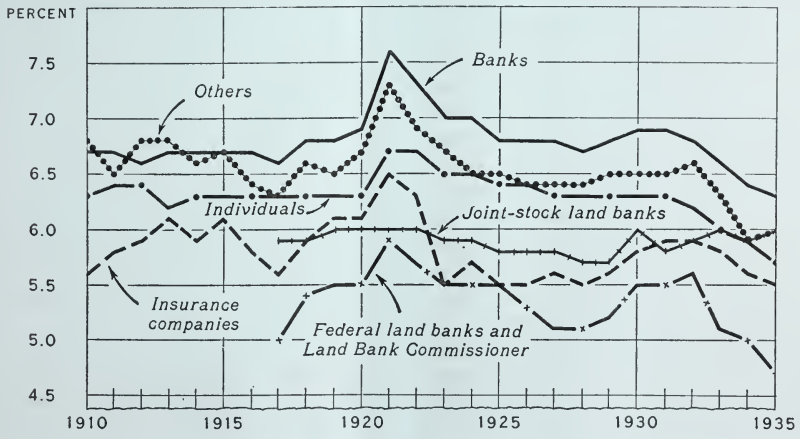
Since the types of loans made by the land banks and insurance companies have been similar in many respects, there has been a tendency for competition among these institutions to take more the form of interest-rate competition. In recent years this competition has doubtless been in part an explanation of the reductions in rates charged by insurance companies on new farm mortgages. Although limited information on interest rates charged by local banks and individuals indicates some reduction in recent years, the reductions have not been as pronounced as for insurance companies. Local lenders apparently have continued to operate more in the type-of-credit strata less exposed to centralized lender competition.

OUTSTANDING FARM MORTGAGE DEBT, PERCENTAGE HELD BY PRINCIPAL LENDER GROUPS, JANUARY 1, 1910-40



SOME evidence on the type-of-credit strata in which different lender groups have been most active is afforded by data on size and contract terms of mortgages recorded. According to estimates by the Farm Credit Administration, 25.5 percent of the number of all farm mortgages recorded in 1938 were for amounts of $500 or less and 45.7 percent were for $1,000 or less. For insurance companies, however, only 1.7 percent of their loans were for $500 or less and only 5.7 percent were for $1,000 or less. For the Federal land banks and the Land Bank Commissioner the comparable percentages were 7.1 percent and 25 percent. Individual and commercial bank mortgage loans were in sharp contrast to those of the centralized lenders as regards size; 34.2 percent of the loans recorded by individuals and 27.3 percent of the loans recorded by commercial banks were for $500 or less and 56.5 and 49.8 percent, respectively, were for $1,000 or less. Data compiled by the Bureau of Agricultural Economics for the

AVERAGE RATES OF INTEREST CHARGED ON FARM MORTGAGE LOANS RECORDED BY VARIOUS LENDER GROUPS, UNITED STATES, 1910-35



period 1917–35 indicate similar differtnces in average size of loans made by the several lender groups.

No data for the years since 1935 have been compiled on the average contract terms of mortgage loans recorded, but data for selected periods, 1917–35, indicate that loans by commercial banks and individuals were for relatively short periods, those by insurance companies were for somewhat longer periods, and, of course, those by the land banks were relatively long-term loans. A noteworthy feature in regard to the trend of the average contract term of mortgage loans made by commercial banks and individuals was the tendency for the average to decline during the period 1917–35. This suggests that one effect of land bank and insurance company competition for loans in the 1920's was to shift away from local lenders those loans adapted to long-term lending, leaving the local lenders with an even larger proportion of their loans carrying shorter terms than previously. There apparently is little to support the thesis that land bank competition has tended to induce local lenders to grant longer term loans. The evidence seems rather to support the thesis that competition operated to cause local lenders to specialize more in those types of credit service that were not suited to the loan standards of the public and private centralized lending agencies.

IT is true, of course, that there have been significant changes in the interest rates charged by local lenders. Such changes, however, have to be interpreted in the light of other considerations in addition to competition of the centralized types of lenders. Changes in the character of the financing, and in the general money-market situation as it affects yields on alternative investments, are largely outside the field of direct interest-rate competition from the land banks and insurance companies. Thus the decline of interest rates charged by commercial banks during most of the 1920's, the rise in the late 1920's and early 1930's, and the subsequent decline during the 1930's may have been influenced more by these factors than by direct competition for mortgage loans.

It is difficult to say how much of the reduction during the early and middle 1930's in interest rates charged by banks and other local lenders reflected a reduction in the proportion of the loans made in the high interest rate areas, and how much of it was due to the fact that such lenders in other areas restricted their lending operations to loans that would justify low interest rates. The presence of such factors makes very difficult an interpretation of short-run trends in the interest rates charged by these lenders. For this reason the relative relationships of interest rates charged by different lenders over an extended period may be more significant than short-run trends as a measure of the extent of direct interest-rate competition.

It should be noted also that contract interest rates are not the best measure of differences in the total cost of credit from different lenders, as some lenders include most of the loan charges in the interest rate whereas others charge special fees and commissions in addition to the interest rate. It is possible, therefore, that interest-rate competition has been reflected in part in the absorption of certain of these special charges by the lender, and that the trends of effective interest rates charged by different lenders may have tended to converge somewhat more in the last two decades than is indicated by the accompanying chart on that subject. Nevertheless, there are still wide differences between the effective interest rates charged by local and centralized lenders, and one important factor tending to maintain these differences is the qualitative peculiarities in the type of credit furnished by the several types of lenders.

WHAT bearing do these considerations have on the prospects for further reductions in farm-mortgage

interest rates? For one thing, there is a real question as to how much a leduction in the interest rates charged by existing Federal mortgage credit institutions can be expected to benefit indirectly borrowers from those private lending institutions which now charge relatively high rates. Present borrowers from the Federal mortgage credit institutions would benefit directly, and others with mortgages conforming to the loan standards of those institutions would benefit indirectly through the competitive influence of the lower interest rate, but it is probable that type-of-credit stratification in the farm-mortgage credit market is sufficiently rigid to confine the indirect benefits of such federally sponsored competition to a relatively small group. To obtain lower interest rates for all groups might require either that the federally sponsored credit units offer a loan service more directly in competition with local lenders or that methods other than federally sponsored competition be adopted. It would seem that any measures designed to reduce farm-mortgage interest rates for those now paying relatively high rates will have to take account of the competitive pattern of farm-mortgage lending and the reasons for the interest rates now charged by local lenders.

Donald C. Horton,
Harold T. Lingard.

Regional Trends in Dairying

A CONSIDERABLE difference in the regional developments in dairying during the past several years is indicated by an examination of data showing changes in the number of milk cows and in the production and utilization of milk in each of the major type-of-farming regions in the United States from 1928 to 1939.

During the period 1928-39, there was a general rise in the number of milk cows in the United States, although the increase was not continuous throughout the period; increases were registered in each of the 12 major type-of-farming regions. The largest increase in number of milk cows (cows and heifers 2 years old and over kept for milk) occurred in the Cotton Belt. The increase in this region was almost 25 percent of the total increase in the United States. The increase in the dairy region was nearly as large as that in the Cotton Belt, and a fairly large expansion took place in the Corn Belt and the general farming region. These 4 regions accounted for more than 75 percent of the total national increase. Table 1 indicates the magnitude of the change in each region.

Much of the expansion in the number of milk cows in the Cotton Belt, and to a lesser extent in other regions, has resulted from a considerable increase in the number of herds of 3 cows or less. Information from the Census of Agriculture indicates that from 1929 to 1934 there was an increase of about 240,000 in the number of farms in the South reporting cows milked, and it is probable that further increases have occurred since then.

ALTHOUGH the rank of each region in number of milk cows was the same in 1939 as in 1928, there was much variation in some regions between the percentage of the national cow population in 1928, and the percentage of the total increase from 1928 to 1939. Thus, the Cotton Belt, which had about 13 percent of all milk cows in 1928, accounted for nearly 25 percent of the national increase in the following 11-year period. The increases in the self-sufficing and the tobacco and general farming regions

were also somewhat larger than might be suggested by the percentage of all cows in these regions in 1928. On the other hand, relatively small increases occurred in the wheat and small grains and the range livestock regions, and in certain subregions which were seriously affected by droughts in 1934 and 1936. The expansion in numbers in each of the remaining regions was roughly in accord with the number of milk cows at the beginning of the period.

ESTIMATES of milk production in 5 type-of-farming regions in 1928 and in 1938 indicate that the dairy, Cotton Belt, Corn Belt, wheat and small grains, and range livestock regions accounted for 23.6, 21.8, 19.2, 3.2, and 2.7 percent, respectively, of the total increase in milk production in the United States during this period. The expansion in milk production was larger in the dairy region than in the Cotton Belt, despite the fact that there was a larger increase in the number of milk cows in the Cotton Belt. Similarly, the increase in milk production in the Corn Belt was almost as large as that in the Cotton Belt notwithstanding a much larger increase in the number of cows in the Cotton Belt.

The utilization of the increase in milk production is of considerable significance in evaluating the importance of the expansion which has occurred. In some instances, the increase may be used on the farms where produced or to supply local fluid markets, both of which have a relatively small influence on the prices of dairy products in other regions. In other instances, the increase may be used in the manufacture of butter, cheese, or other products which may be readily shipped from one region to another. It is probable that utilization of this second type has a substantial influence on prices in other regions, although its actual importance, of course, would be dependent on the volume involved.

AN examination of the utilization of the increases in milk production from 1928 to 1938 in the three regions of largest increase—dairy, Cotton Belt, and Corn Belt—indicates that marked differences existed. In the dairy region the increase in the quantity of milk used in the production of manufactured dairy products in plants was equivalent to about 95 percent of the increase in milk production. In the Corn Belt the quantity of milk used in the production of manu-

Table 1.—Number and Increase of Milk Cows on Farms by Major Type-of-Farming Regions in the United States, 1928–39, and Percentage of National Increase in Each Region

Region	Milk cows [1]		Increase		Percentage of total national increase
	1928	1939	Number	Percentage	
	Thousands	*Thousands*	*Thousands*	*Percent*	*Percent*
Dairy	5,572	6,253	681	12.2	23.9
Corn Belt	4,752	5,158	406	8.6	14.3
Cotton Belt	2,904	3,612	708	24.4	24.9
General farming	1,992	2,337	345	17.3	12.1
Mixed farming	1,793	1,950	157	8.8	5.5
Wheat and small grains	1,687	1,741	54	3.2	1.9
Fruit and mixed farming	1,001	1,133	132	13.2	4.6
Range livestock	988	1,031	43	4.4	1.5
Special crops	849	955	106	12.5	3.8
Tobacco and general farming	774	894	120	15.5	4.2
Self-sufficing	375	457	82	21.9	2.9
Truck	139	151	12	8.6	.4
United States [2]	22,231	25,088	2,857	12.9	100.0

[1] Milk cows and heifers 2 years old and over kept for milk.
[2] The regional numbers add to a slightly different total due to some overlapping of regional boundaries.

Computed from data from U. S. Department of Agriculture, Agricultural Marketing Service.

factured dairy products increased more than the production of milk. This came as a result of decreases in the quantity of milk used to make farm butter and to supply urban fluid markets, which decreases were only partly offset by an increase in the consumption of fluid milk on farms in the region. In the Cotton Belt, on the other hand, it appears that between 35 and 40 percent of the increased production was used in fluid form or to make farm butter. Thus, only about 60 to 65 percent of the increased milk production was used in the commercial manufacture of dairy products.

It may be pointed out that the dairy region increased butter production by a larger quantity than did any other region during the period from 1928 to 1938, and the Corn Belt showed the largest absolute increases in the production of American cheese and evaporated milk.

THE large increase in the number of farms reporting cows milked may be judged an important factor in explaining the somewhat smaller portion of milk supplies going into manufactured dairy products in the Cotton Belt. Much of the milk production on these farms is probably used on the farms where produced. Data for the South as a whole indicate that the per capita consumption of fluid milk and of certain manufactured dairy products is still considerably below the national average, and it is quite probable that a large part of additional production in many parts of the region will be consumed locally. It has been estimated that it would require approximately 3.1 million cows to supply the farm population of the South with the dairy products needed for a minimum adequate diet. The number of cows used for this purpose in 1937 was about 2.3 million.[1]

[1] Steanson, Oscar, and Lansford, E. L., Food, Feed, and Southern Farms. Bur. Agr. Econ. November 1939. (Mimeographed.)

THE rapid increase in the number of milk cows and milk production in the Cotton Belt is the result of many forces, several of which are important throughout the region. The shift from cotton to feed crops and pasture, and the decreases in the number of work and beef animals are examples of changes that have been widespread. Much of the increase in commercial milk production, however, appears to have centered in a few areas within the region, and an examination of the changes in three of these areas—northeastern Texas, south central Tennessee, and east central Mississippi—indicates that the expansion has been due in part to factors of local importance. Dairying developed somewhat earlier in these areas than in the Cotton Belt as a whole, because of the presence of factors quite favorable to dairying or because of certain difficulties, such as weed and insect infestation, in the production of cotton, which were of somewhat greater importance in these areas than in other areas in the region. It is probable that this earlier development has made it somewhat easier for the farmers in these areas to shift further from the production of cotton to dairy farming in recent years.

W. F. FINNER.

SHARE Studies by the Bureau of Agricultural Economics show that in 1940 farmers received 6.2 billion dollars for producing the foods bought by American consumers. Consumers spent 14.8 billion dollars for these foods. The difference, totaling 8.6 billion dollars, went to railroads, truckers, processors and manufacturers, wholesalers, retailers, bankers, and other middlemen. On the average the farmer got 42 cents of the consumer's food dollar. The marketing system took 58 cents.

Shifts in Production of Hay

THE number of acres of hay harvested annually in the United States the past few seasons is about the same as that during 1909–14; nevertheless, important changes have occurred in production of the different kinds of hay. Two trends are apparent. Wild hay is becoming less important and legume hays more important in hay production.

From an average of 17 million acres in 1909–14, the harvested acreage of wild hay fell to an average of 11.3 million acres in 1937–39. During the same period, the harvested acreage of tame hay increased from 50.3 million to 56.6 million. Thus, the total acreage of hay harvested has remained relatively stable. But the shift to legume hays, such as alfalfa and lespedeza, has been so widespread that the added acreage of these tame hays has offset not only the acreage decline in wild hay but also a large part of the reduction in clover and timothy acreage.

ALFALFA hay was harvested on 13.5 million acres in 1939, a gain of nearly 1.8 million acres over the average of 1928–32. About 85 percent of this gain occurred in the 12 North Central States, which harvested approximately 55 percent of the alfalfa hay acreage in the United States in 1939. Within this group of States, Michigan, Wisconsin, and Minnesota showed the greatest expansion of acreage, more than enough to offset the reductions of acreage in North Dakota, South Dakota, Nebraska, and Kansas. The recent drought cycle severely damaged alfalfa in the Great Plains and the Far West. In part, alfalfa acreage has declined in these States because alfalfa will not grow on land where the subsoil moisture has been exhausted. Except under irrigation, it will probably be many years before alfalfa can be successfully grown again on such land, even with conditions of normal rainfall. Other regions of the United States have expanded alfalfa hay acreage.

Soybean, cowpea, and peanut vine hays are showing a rapid increase. The 1939 acreage of these legume hays in the United States was 8.2 million acres, an increase of 3.3 million acres above the average of 1928–32. Only the States of the West, New England, and the Northern Great Plains are not growing these hays. Soybean hay is grown in the more northerly States and is increasing most in the Corn Belt States (particularly in Iowa, Ohio, Wisconsin, and Minnesota), although Illinois still was harvesting the largest acreage in 1939.

THE most rapidly expanding tame hay is lespedeza, a legume. From an average of 0.5 million during 1928–32, the acreage of lespedeza harvested for hay had increased to 3.7 million in 1939. Not only has lespedeza been increasing in Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana—where it was grown for hay prior to 1925—but it also has spread northward into the Corn Belt as improved varieties have been developed. In 1939, nearly 1.2 million acres of lespedeza were harvested for hay in the North Central States, but in 1936 only 56 thousand acres were reported. The expansion has been especially rapid in Missouri; the acreage of lespedeza harvested leaped from 40 thousand acres in 1936 to 800 thousand in 1939, Missouri thus accounting for approximately one-third of the gain in lespedeza hay acreage for all States during this period. Lespedeza also has spread into the Southern States along the Atlantic Coast.

In contrast with the shift to legume hays has been the shift away from mixed clover and timothy hay. In 1939, 20.8 million acres of clover and timothy were harvested, a decline of 6 million from the average of 1928–32. Of this decrease in timothy and clover,

approximately 80 percent occurred in the North Central States, particularly in Iowa and Missouri. Because the acreage in this hay has decreased less in the New England States, these States have an increasing percentage of the total acreage. By 1939, this percentage reached 34 but the North Central States still ranked first with 53 percent.

THE reasons for shifts in types of hays produced are varied. The tractor, truck, and automobile have made possible a reduction of 10 million horses and mules on farms; the demand for clover and timothy hay, which is considered an important roughage for workstock, has thus diminished. In addition, clover and timothy do not yield so heavily as alfalfa.

Alfalfa hay, exceeded in acreage only by clover and timothy, is valued highly. It is rich in protein, calcium, and vitamins A and D, and is well-liked by all kinds of livestock. Alfalfa not only produces large yields in tons per acre—the 1928–32 average yield for the United States was 2 tons an acre—but is superior to most roughages in digestibility. At the 1928–32 average yields for the United States, alfalfa produces twice as many pounds of digestible nutrients on an acre as clover and timothy, and over four times as many pounds of digestible protein. In the areas of the Corn Belt where both alfalfa and corn are well adapted, alfalfa produces more feed on an acre, in terms of total digestible nutrients at average yields per acre, than does corn harvested for grain, a ton of alfalfa being equivalent in digestible nutrients to 20–25 bushels of corn.

IN addition to the superior feeding qualities of legumes, these crops are recognized as aids in preventing depletion of soil fertility. Because of the fixation of free nitrogen by bacteria associated with legumes, these crops either add to the nitrogen content of the soil, or aid in offsetting depletions of nitrogen required in plant growth. Legumes thus become an important part of the effort to conserve soil resources, and the action programs in agriculture undoubtedly have accentuated this shift to legumes. The provision of limestone and superphosphate in lieu of cash payments for compliance has aided in removing a barrier to the growth of legumes; payments for new seedings also have an influence. Much of this expansion, of course, is not used for hay; however, if the need for a greater acreage of hay arises, legume pasture may be diverted in part to hay production.

Another factor aiding in the spread of legumes is the improvement in varieties by plant breeders. Improved varieties not only yield better, but have been adapted to greater ranges in climatic conditions; resistance to disease also has been strengthened. Lespedeza has spread northward in part because of improved varieties; its ability to grow on poor soil without first liming and its success in a rotation with small grain also are important factors.

SHIFTS in hay production now occurring mean more hay and higher quality hay per acre. It has been estimated that acreage shifts in tame hays in the North Central States have increased the normal acre yield of tame

Acreage of Hay, by Kinds, Harvested in the United States, 1928–32, 1938, 1939 [1]

Type of hay	Average 1928–32	1938	1939 [2]
	1,000 acres	*1,000 acres*	*1,000 acres*
Wild hay	13,288	11,826	10,898
Tame hay	55,153	56,925	58,347
Clover and timothy	26,872	21,342	20,828
Alfalfa	11,720	13,478	13,494
Soybean, cowpea, and peanut vine	4,932	7,537	8,266
Grains cut green	4,174	3,671	3,800
Lespedeza	504	2,851	3,692
Miscellaneous	6,950	8,046	8,267
All hay	68,441	68,751	69,245

[1] Crops and Markets.
[2] Preliminary.

hay by 7 percent.[1] These shifts to higher quality, heavier-yielding tame hays reinforce the trend toward more roughage caused in part by mechanization, which is releasing feed by reducing the number of workstock, and in part by diversion of acreage from soil-depleting crops. A greater production of beef and dairy products is likely, and unless consumption of these products is expanded, prices will tend to fall.—Albert A. Thornbrough.

[1] Mighell, R. L., Economic Aspects of Hybrid Corn—Further considered, Journal of Farm Economics, August 1939, pp. 661–665.

More Cattle, Fewer Hogs

INVENTORY of livestock on farms January 1 showed more cattle and sheep than a year earlier; fewer hogs, chickens, turkeys, horses, and mules. In terms of animal units or feed requirements, livestock numbers during 1940 decreased 4 percent—the increase in cattle and sheep not being large enough to offset the decrease in other livestock.

Cattle: Number of cattle totaled 72 million head, compared with 69 million in 1940, and with 67 million average for the 10 years 1930–39. These cattle included 26 million head of milk cows, compared with 25 million in 1940, and with 25 million average for the preceding 10 years. Total farm value of cattle was 3.1 billion dollars this year, compared with 2.8 billion in 1940, and with 2.1 billion average for 1930–39.

The number of cattle and calves on farms January 1, 1941 was 2.9 million head larger than a year earlier, and about 5.6 million head larger than at the recent low point in early 1938. Cattle numbers were reduced about 8 million head from early 1934 to early 1938, chiefly because of the droughts of 1934 and 1936. But the increase since early 1938 has carried the total to a figure only 2.6 million head less than the record total of early 1934. Since feed supplies are abundant in most areas, further increases are expected in the number of cattle. The 1934 level probably will be exceeded within the next 2 or 3 years.

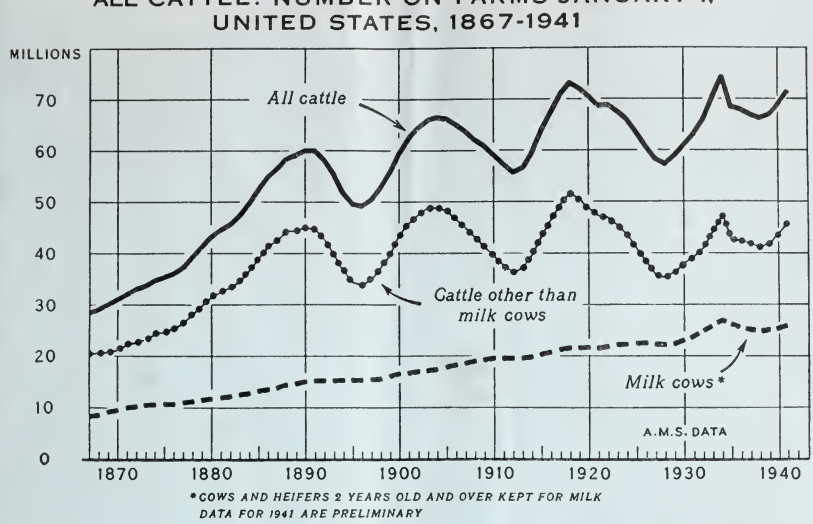
Sheep: Fifty-six million sheep were on farms January 1 this year, compared with 55 million in 1940, and with 53 million average for the preceding 10 years. Total farm value this year was 376 million dollars, compared with 344 million in 1940, and with 279 million average for the preceding 10 years.

Hogs: The number of hogs totaled 53 million on January 1 this year, compared with 60 million in 1940, and with 51 million average for the preceding 10 years. Total farm value was 440 million dollars in 1941, compared with 470 million in 1940, and with 459 million average for 1930–39.

Chickens: The number of chickens on farms totaled 414 million for 1941, compared with 429 million in 1940, and with 424 million average for 1930–39. Total farm value this year was 270 million dollars, compared with 259 million in 1940, and with 277 million average for the preceding 10 years.

Turkeys: Turkeys also showed a reduction in numbers—7 million in 1941, compared with 9 million in 1940, and with 6 million average for the preceding 10 years. Total farm value of turkeys this year was 16 million dollars, against 19 million in 1940, and 14 million average for 1930–39.

Horses: Horses were fewer and the total farm value smaller this year than last: 10 million horses on farms on January 1, compared with 11 million in 1940, and with 12 million average for the preceding 10 years. Total



farm value of horses: 707 million dollars in 1941, compared with 820 million in 1940, and 901 million average for the preceding 10 years.

Mules: There were 4.2 million mules on farms on January 1 last, compared with 4.3 million in 1940, and with 4.9 million average for 1930–39. Total farm value of mules was 448 million dollars in 1941, against 494 million in 1940, and 454 million average for the preceding 10 years.

United States: Exports and Imports of Specified Agricultural Commodities, September–January 1939–40 and 1940–41 and January 1940 and 1941 [1]

Commodities	Unit	September-January		January	
		1939–40	1940–41	1940	1941
Exports:					
Pork:		*Thousands*	*Thousands*	*Thousands*	*Thousands*
Cured pork [2]	Lb	30,888	5,606	12,301	1,157
Other pork [3]	Lb	38,156	10,460	16,286	1,118
Total pork	Lb	69,044	16,066	28,587	2,275
Lard, including neutral	Lb	116,396	56,351	27,988	13,666
Wheat, including flour	Bu	19,612	15,605	2,650	1,864
Apples, fresh [4]	Bu	2,297	521	244	64
Pears, fresh	Lb	62,093	13,128	3,230	929
Tobacco, leaf	Lb	158,937	55,088	33,941	13,307
Cotton, excluding linters (500 lb.)	Bale	4,171	634	1,086	59
Imports:					
Cattle	No	243	272	70	78
Beef, canned, including corned	Lb	37,677	19,923	8,407	5,363
Hides and skins [5]	Lb	139,861	179,193	30,116	41,067
Barley malt	Lb	29,510	15,540	4,728	3,397
Sugar, cane (2,000 lb.)	Ton	1,241	1,006	191	279
Flaxseed	Bu	3,689	4,072	1,058	1,482
Tobacco, leaf	Lb	25,810	27,710	5,520	6,053
Wool, excluding free in bond for use in carpets, etc.	Lb	75,194	157,441	24,990	52,712

[1] Corrected to March 5, 1941.
[2] Includes bacon, hams, shoulders, and sides.
[3] Includes fresh, pickled or salted, and canned pork.
[4] Includes baskets, boxes, and barrels in terms of bushels.
[5] Excludes the weight of "other hides and skins" which are reported in pieces only.

Office of Foreign Agricultural Relations. Compiled from official records, Bureau of Foreign and Domestic Commerce.

Year and month	Industrial production (1935–39=100)[1]	Income of industrial workers (1924–29=100)[2]	Cost of living (1924–29=100)[3]	(1910–14=100) Wholesale prices of all commodities[4]	Prices paid by farmers for commodities used in[5]— Living	Production	Living and production	Farm wages	Taxes[6]
1925	91	98	101	151	164	147	157	176	270
1926	96	102	102	146	162	146	155	179	271
1927	95	100	100	139	159	145	153	179	277
1928	99	100	99	141	160	148	155	179	279
1929	110	107	99	139	158	147	153	180	281
1930	91	88	96	126	148	140	145	167	277
1931	75	67	88	107	126	122	124	130	253
1932	58	46	79	95	108	107	107	96	219
1933	69	48	75	96	109	108	109	85	187
1934	75	61	77	109	122	125	123	95	178
1935	87	69	79	117	124	126	125	103	180
1936	103	80	80	118	122	126	124	111	182
1937	113	94	83	126	128	135	130	126	187
1938	88	73	81	115	122	124	122	125	186
1939	108	83	80	113	120	122	121	123	190
1940	122	94	81	115	121	124	123	126	--
1940—February	116	89	81	115	--	--	122	--	--
March	113	87	81	114	121	125	123	--	--
April	111	86	81	115	--	--	123	124	--
May	115	87	81	114	--	--	123	--	--
June	121	89	81	113	121	125	123	--	--
July	121	91	81	113	--	--	122	129	--
August	121	95	81	113	--	--	122	--	--
September	125	98	81	114	121	123	122	--	--
October	129	100	81	115	--	--	122	129	--
November	132	103	81	116	--	--	122	--	--
December	138	107	81	117	122	125	123	--	--
1941—January	139	109	81	118	--	--	123	124	--
February[7]				118	--	--	123	--	--

Year and month	Index of prices received by farmers (August 1909–July 1914=100) Grains	Cotton and cottonseed	Fruits	Truck crops	Meat animals	Dairy products	Chickens and eggs	All groups	Ratio of prices received to prices paid
1925	157	177	172	153	140	153	163	156	99
1926	131	122	138	143	147	152	159	145	94
1927	128	128	144	121	140	155	144	139	91
1928	130	152	176	159	151	158	153	149	96
1929	120	144	141	149	156	157	162	146	95
1930	100	102	162	140	133	137	129	126	87
1931	63	63	98	117	92	108	100	87	70
1932	44	47	82	102	63	83	82	65	61
1933	62	64	74	105	60	82	75	70	64
1934	93	99	100	103	68	95	89	90	73
1935	103	101	91	125	118	108	117	108	86
1936	108	100	100	111	121	119	115	114	92
1937	126	95	122	123	132	124	111	121	93
1938	74	70	73	101	114	109	108	95	78
1939	72	73	77	105	110	104	94	93	77
1940	85	81	79	114	108	113	96	98	80
1940—February	91	85	76	159	101	118	98	101	83
March	92	85	73	118	102	114	83	97	79
April	96	85	81	128	104	110	82	98	80
May	92	83	88	117	108	106	84	98	80
June	83	81	104	112	102	104	81	95	77
July	78	80	89	98	110	105	88	95	78
August	76	77	79	107	110	109	90	96	79
September	77	76	73	114	114	111	104	97	80
October	80	78	79	99	112	116	112	99	81
November	83	79	71	98	112	121	120	99	81
December	81	79	75	93	111	128	122	101	83
1941—January	84	80	78	117	130	121	100	104	[7] 85
February	81	80	80	156	130	118	90	103	[7] 84

[1] Federal Reserve Board, adjusted for seasonal variation. Revised August 1940.

[2] Adjusted for seasonal variation.

[3] Monthly indexes for months not reported by the Bureau of Labor Statistics are interpolated by use of the National Industrial Conference Board cost-of-living reports. Revised.

[4] Bureau of Labor Statistics index with 1926=100, divided by its 1910–14 average of 68.5.

[5] These indexes are based on retail prices paid by farmers for commodities used in living and production reported quarterly for March, June, September, and December. The indexes for other months are interpolations between the successive quarterly indexes.

[6] Index of farm real estate taxes per acre. Base period represents taxes levied in the calendar years 1909–13, payable mostly within the period Aug. 1, 1909–July 31, 1914.

[7] Preliminary.

NOTE.—The index numbers of industrial production and of industrial workers' income shown above are not comparable in several respects. The base periods are different. The production index includes only mining and manufacturing; the income index also includes transportation. The production index is based on volume only, whereas the income index is affected by wage rates as well as by time worked. There is usually a time lag between changes in volume of production and in workers' income, since output can be increased or decreased to some extent without much change in the number of workers.

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